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TITLE : METHOD OF REMOVING NITROGEN DIOXIDE

ABSTRACT : PROBLEM TO BE SOLVED: To remove a low concentration NO₂ without making a NO concentration of the inlet of an adsorbent packed layer higher than that of the outlet.

SOLUTION: In a method for adsorbing and removing NO₂ from a waste gas containing NO₂ and NO, an inorganic oxide based adsorbent adsorbing both NO and NO₂ and a carbonaceous adsorbent adsorbing only NO₂ and partially discharging as NO are used in combination as the adsorbents. In the arrangement of the adsorbents, the inorganic oxide based adsorbent lower in the adsorption rate of the low concentration NO₂, but capable of adsorbing both NO₂ and NO and large in adsorption capacity is arranged in the front stage to the gas flow and the carbonaceous adsorbent adsorbing only NO₂ and partially discharging as NO, but high in the adsorption rate of the low concentration NO₂ is arranged in the rear stage. As a result, ≥90% NO₂ removing ratio to 1% having the low concentration of 0.1 ppm is attained and the adsorbent is continuously used over a long period of ≥1 years without being regenerated with reclaiming agent.

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